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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/616,706	07/10/2003	Jia Hong Yin	722-X03-053	1556

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MIAMI, FL 33180

EXAMINER

KARDOS, NEIL R

ART UNIT	PAPER NUMBER
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3609

MAIL DATE	DELIVERY MODE
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07/25/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/616,706

Applicant(s)

YIN, JIA HONG

Examiner

Neil Kardos

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☒ Claim(s) 1,5,6,10,16 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Specification

The disclosure is objected to because of the following informalities:

1. Figure 1, as described in paragraph [00059], is not consistent with the specification. In referring to Figure 1, the specification states that notional data bars 18 and 17 are defined close to and parallel to edges 14 and 15. However, in the figure, notional data bar 18 is not parallel to edges 14 and 15. The Examiner believes that the applicant meant to refer to item 16 rather than item 18 in paragraph [00059]. Furthermore, reference number 16 appears in Figure 1, but does not appear anywhere in the specification. To resolve both of these issues, the Examiner suggests that “18” be replaced with “16” in paragraph [00059].

2. The specification contains several grammatical/spelling errors. These errors, along with their suggested replacements, are listed here:

[0006] Change “a ales” to “sales”

[00016] Change “visual stimulus The” to “visual stimulus. The” (missing period)

[00016] Change “and. utilized” to “and utilized” (remove period)

[00030] Change “may he automatically classified” to “may be automatically classified”

[00047] Change “not, essential” to “not essential” (remove comma)

[00047] Change “area I of interest” to “area 1 of interest”

[00048] Change “ran” to “can”

[00058] Change “In as alternative” to “In an alternative”

[00058] Change “but it, is possible” to “but it is possible” (remove comma)

[00065] Change “axe” to “are”

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[00066] Change “(ox alternatively)” to “(or alternatively)”

[00067] Change “certain to time window” to “certain time window”

[00068] Change “thug” to “thus”

Appropriate correction is required.

Claim Objections

3. Claims 1, 5, 6, 10 and 16 are objected to because of the following informalities:

Claim 1 contains a grammatical error. “Means utilizing said behavior pattern” should be replaced with “means **for** utilizing said behavior pattern.”

Claim 5 refers to the floor portion of claim 1 without providing antecedent basis. Claim 1 does not mention a floor portion. Claim 4, however, does mention a floor portion. This objection can be rectified by replacing “claim 1” with “claim 4.”

Claim 6 contains a grammatical error. “A system according claim 1” should be changed to “a system according **to** claim 1.”

Claim 10 contains a grammatical error. The word “product” should be replaced with “products.”

Claim 16 contains a grammatical error. The words “with in” should be combined to read “within.”

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1, 3, 5, 6, 9, 13, 14, 16, and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, the use of the term "and/or" is indistinct.

Claim 3 recites the limitation "the degree of interest" in claim 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 5 recites the limitation "the floor portion" in claim 1. There is insufficient antecedent basis for this limitation in the claim.

Claim 6 provides for the use of "a system according to claim 1", but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Regarding claim 9, the phrases "as represented by" and "such as" render the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claims 13, 14, and 16 recite the limitation "counting of people" in claim 1. There is insufficient antecedent basis for this limitation in the claim.

In claims 13 and 14, the use of the phrase "means including" is indistinct and fails to limit the claims.

Claim 17 recites the limitation "detection of motion of people" in claim 1. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. Claims 1-4, 6, and 18 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent number 6,228,038 to Claessens (hereinafter referred to as “Claessens”).

As per claim 1, Claessens discloses a monitoring system comprising:

video means sited to view an area of interest characterized by its proximity to, and/or location with respect to, at least one visual stimulus (see column 6, lines 9-12),

means for generating electrical signals representing video images of said area at different times (see column 6, lines 9-12 and column 1, lines 44-54),

processing means for processing said signals to determine a behavior pattern of people traversing said area (see abstract and column 6, lines 33-38), and

means utilizing said behavior pattern to provide an indication of a response by said people to said visual stimulus (see abstract and column 6, lines 23-24).

As per claim 2, Claessens teaches a system wherein the behavior pattern includes hesitation or delay in the passage of people through or past the area of interest, consistent with attention being given to the visual stimulus. Claessens discloses determining the starting time and the length of time that a person views a given stimulus (see column 8, line 54). Furthermore, Claessens teaches recording changes in viewing time of individuals in response to stimuli (see column 5, lines 19-29). Hesitations and delays inherently involve a time element (i.e. the interval of time between two events), which is taught by Claessens.

As per claim 3, Claessens discloses a system wherein the degree of interest shown in the stimulus is derived, on-line and with readily available computing power, by means of algorithms operating upon digitized data derived from the video images (see column 9, line 3 through column 10, line 28).

As per claim 4, Claessens teaches a system wherein the area of interest is defined on a floor portion abutting or otherwise adjacent the stimulus (see column 1, lines 44-54).

As per claim 6, Claessens discloses a system utilized for in-store monitoring of the response of customers to visual stimuli in the form of displays of goods or products (see column 1, lines 44-54).

As per claim 18, Claessens discloses a system wherein the indication of response is combined with that derived from other areas of interest in order to permit the assimilation of indications relating to a plurality of said areas for comparison and evaluation (see Figure 2, item 11).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Claessens in view of U.S. Patent number 5,465,115 to Conrad (hereinafter referred to as "Conrad").

As per claim 5, Claessens does not explicitly teach a system wherein the video images are derived from at least one overhead television camera mounted directly above the floor portion.

Conrad, however, teaches a retail traffic monitoring system wherein a camera is mounted overhead an area of interest in order to record people (see Figure 2, Item 10).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to place the camera of Claessens directly overhead in order to monitor people. One of ordinary skill in the art would have been motivated to do so because the human body resembles a rigid body when viewed from overhead, and thus requires less computing power to monitor from this position (see column 6, lines 29-42).

7. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Claessens in view of U.S. Patent number 5,923,252 to Sizer et al (hereinafter referred to as "Sizer").

As per claim 7, Claessens does not specifically disclose a system configured to be capable of detecting interaction of customers with the goods or products in a display.

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Sizer, however, does teach this type of detection (see column 8, lines 17-19) for the purpose of monitoring the response of a person to said goods or products (see column 2, lines 52-53).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the invention of Claessens for the purpose of detecting interactions of customers with goods or products on display.

As per claim 8, Claessens does not specifically disclose a system configured to detect a customer reaching out to touch, remove, or replace goods or products on display.

Sizer, however, does teach this type of detection (see column 8, lines 17-19 and 65-66) for the purpose of monitoring the response of a person to said goods or products (see column 2, lines 52-53):

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the invention of Claessens for the purpose of detecting customer interactions involving touching, removing or replacing goods or products on display.

8. Claims 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Claessens in view of Sizer, and further in view of U.S. Patent number 5,930,766 to Gibb (hereinafter referred to as "Gibb").

As per claim 9, Claessens does not specifically disclose a system wherein means are provided for correlating the removal of goods or products from a display with the subsequent purchase thereof.

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Gibb, however, does teach this correlation for the purpose of adding an item to a customer's bill (see abstract and column 3, lines 9-19).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Claessens to include means to correlate the removal of a product with its purchase.

As per claims 10-12, Claessens does not specifically disclose a system comprising discriminator means capable of indicating the removal of goods or products from individual locations in the display. Also, Claessens does not teach the limitation that said discriminator means comprises a network of crossed beams of energy defined immediately adjacent or within the display. Furthermore, Claessens does not teach the limitation that said beams of energy comprise collimated infrared beams.

However, Gibb teaches all of these claimed limitations. Gibb teaches discriminator means for the purpose of detecting the presence of products (see column 1, line 62 through column 2, line 14 and Figure 4, items 39 and 41).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Claessens to include: 1) discriminator means capable of indicating the removal of goods or products from individual locations in the display, 2) discriminator means comprising a network of crossed beams of energy defined immediately adjacent or within the display, and 3) discriminator means wherein said beams of energy comprise collimated infra-red beams.

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9. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Claessens in view of U.S. Patent number 5,761,326 to Brady et al (hereinafter referred to as "Brady").

As per claims 13 and 14, Claessens does not explicitly disclose a system wherein counting of people within the area of interest is effected by means including edge detection or moving edge detection.

Brady teaches tracking objects by analyzing the intensities of edge elements within the image (see abstract, Figure 3 Item 41).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the image processing techniques of Brady to the invention of Claessens for the purpose of tracking objects.

10. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Claessens in view of Brady, and further in view of Conrad

As per claim 15, Claessens does not specifically disclose a system wherein a number of people counted using said moving edge detection is subtracted from a total number of people in said area to provide an indication of a number of stationary people in said area.

Conrad teaches using subtraction to determine the number of people in a given area (see Figure 8, Items 54-62).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the image processing techniques of Conrad to the invention of Claessens for the purpose of determining the number of stationary people in an area.

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11. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Claessens in view of U.S. Patent number 6,519,360 to Tanaka (hereinafter referred to as "Tanaka")

As per claim 16, Claessens does not specifically disclose a system wherein counting of people within the area of interest is effected by means evaluating percentage occupancy of pixels in said video image of said area of interest.

Tanaka teaches obtaining an occupancy ratio of pixels in an image (see Figure 9 Item S3014).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the pixel occupancy technique of Tanaka to the invention of Claessens in order to analyze images of the area of interest.

12. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Claessens in view of U.S. Patent number 6,144,699 to Albin et al (hereinafter referred to as "Albin").

As per claim 17, Claessens does not specifically disclose a system wherein detection of motion of people within an area of interest is effected by blocks matching means.

Albin teaches a device for estimating motion between two images by block matching (see abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the blocks matching means of Albin to the invention of Claessens in order to detect the motion of individuals within a series of images.

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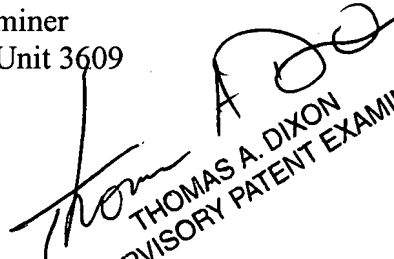
CONCLUSION

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Neil Kardos whose telephone number is (571) 270-3443. The examiner can normally be reached on Mon-Thu and alternating Fridays from 7:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dixon can be reached on (571) 272-6803. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Neil Kardos
Examiner
Art Unit 3609


THOMAS A. DIXON
SUPERVISORY PATENT EXAMINER